

F16. 1

F16.7

build, sh = 12 18 > MAKE GCC B.C Gec C.C G++ D.CC 14 20 A.JAVA 05 114 JIKES B. JAVA C. JAVA 20

F16.3

```
> BASH BUILD. SH > BUILD_OUTPUT. TXT
 52 -> CD MY-SRC
 54 -> SET ENV COMPANYX_ LIB ...
         MAKING IN DIRECTORY "MY_SRC"
 OUTPUT
 FROM
         ENTERING DIRECTORY "SUBDIRZ"
 MAKE
         MAKING N DIRECTORY "SUBDIR 2"
         LEAVING DIRECTORY "SUBDIR2"
  60 ->
         CD .. /TP_SRC
         SETENV TP_LIB
    64 >MAKE
OUTPUT
         MAKING IN DIRECTORY "TP_SRC"
FROM
MAKE
         G++ C.CC
LEAVING DIRECTORY "SUBDIR!"
         CD. 1 OTHER _ SRC
   68 ~
                BUILD OTHER P1
         BUILDING N DIRECTORY NOTHER SRC"
         READING CONFIG FILE "CONFIG. TXT"
 FROM
BUILD_
         COMPILING ...
 OTHER
         JAVAC
                  A, JAVA
         JIKES
                 B. JAVA
         GCJ
                 C. JAVA
```

USER SETS UP BUILD PROGRAM (E.G., USER SPECIFIES WHICH SOURCE CODE TO COMPILE, WHICH complicas to use, And WHICH COMPILER OPTIONS 70 USE FOR BUILD AROCESS)

USER SETS UP STATIC ANALYSIS TOOL MANAGEMENT PROGRAM (EG, USER PROMDES STATIC ANALYSIS TOOL MANAGEMENT PROGRAM WITH COMPILER NAMES AND INFORMATION ON UHICH NON-STANDARD COMPILER OPPIOUS SHOULD BE USED BY CREADUL TEXT FILE CONTAINING THESE SETTINGS)

RUN BUILD PROGRAM AND CAPTURE BUILD PROGRAM DUT PUT (E.G., DIRECT OUTPUT TO BUILD_OUTPUT.TXT)

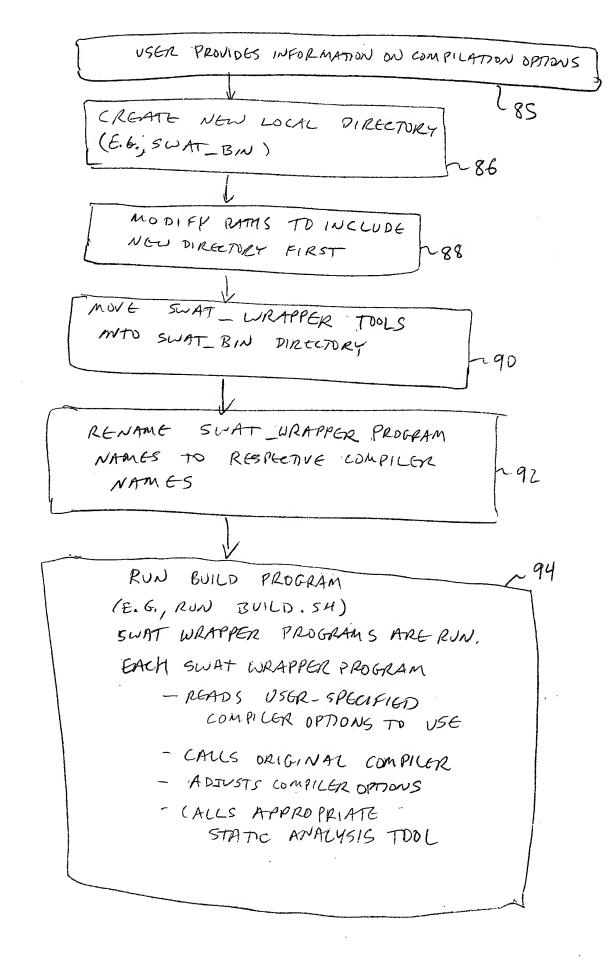
RUN STATIC ANALYSIS TOOL MANAGEMENT PROGRAM 821 (E.G., RUN A SCRIPT THAT INVOKES THE APPROPRIATE STATIC ANALYSIS TOOLS IN PLACE OF EACH BUILD PROGRAM SOMPILER. USE BUILD_ OUTPUT, TXT AS AN INPUT TO DEFINE WHICH STATIC ANALYSIS TOOLS ARE TO BE INVOKED IN WHICH DIRECTORIES. USING WHICH COMPILER OPTIONS)

78

F16.5

76

STATIC ANALYSIS TOOLS PROVIDE ANALYSIS OF SOURCE CODE ERRORS LE.G., EPROR REPORTS ARE GENERATED, RESULTS MAY BE PLACED IN DATABASE)



F16,6

USER SPECIFIES WHICH COMPICERS ARE USED USED AND WHICH OPTIONS ARE TO BE VSED (E.G., WHICH OPTIONS ARE TO BE KNORED OR AUDED)

9-6

START TRACE PROGRAM

98

RUN BUILD PROGRAM WHILE USING TRACE
PROGRAM TO MONITOR ALL ACTIVITY BETWEEN
BUILD PROGRAM AND OPERATING SYSTEM

4100

FILTER TRACE OUTPUT FOR RELEVANT COMPILER AND COMPILER OPTION COMMANDS (REMOVE EXTRANEOUS DR INCOMPATIBLE COMMINDS)

VSE FILTERED TRACE OUTPUT. TO RUN

VERSION OF BUILD PROGRAM WITH STATIC

ANALYSIS TOOLS SUBSTITUTED FOR

COMPILERS AND WITH RELEVANT OPTIONS

USED AND PREELEVANT OPTIONS IGADRED

F104

1102

USER SPECIFIES
COMPILERS AND
COMPILER OPPTIONS
106

108

REDEFINE OPERATING

SYSTEM COMMANDS

SO THAT APPROPRIATE

STATIC ANALYSIS TOOLS

WILL BE EXECUTED IN

PLACE OF REGULAR BUILD

PROGRAM COMPLERS

(E.G., REDEFINE PROCESS CREATION AND EXECUTION)
FUNCTIONS SUCH AS FURIC AND EXEC AND INSTRUCT

OS TO LOAD MODIFIED FUNCTIONS OR

USE NEW KERNAL MODULE CONTAINING

THE MODIFIED FUNCTIONS)

RUN BUILD PROGRAM, WHICH
INVOKES THE REDEFINED OPERATION -110
SYSTEM COMMANDS TO LAUNCH COMPILERS,
REDEFINED OPERATING SYSTEM COMMINDS
INVOKE STATIC ANALYSIS TOOLS
IN PLACE OF COMPILERS

F16, 8